

# Revision of the subtribe Mesocoelina Viereck (Hymenoptera: Braconidae)

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The subtribe Mesocoelina Viereck is redefined, the three genera and their species are keyed, (re)described and illustrated. One new genus (*Plesiocoelus* gen. nov.; type-species: *Plesiocoelus bassiformis* spec. nov. from C. America) and four new species are described. *Aneurobracon* Brues, 1930 is removed from synonymy with *Mesocoelus* Schulz, 1911 and used as valid genus in this paper. Additionally the aberrant *Bassus reductus* spec. nov. from Panama is described.

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## Introduction

The genus *Mesocoelus* Schulz, 1911 is currently the only genus recognized in the Agathidinae (Braconidae) for the species with very aberrant venation; they are with-

out marginal cell in the fore wing because vein SR1 is completely absent. In total, five species are included, two from the Caribbean area, one from W. Africa, one from the Pacific (Samoa) and one from the Philippines. The two Caribbean species possess more derived characters than the other species and, as a result, the genus *Mesocoelus* is used only for this group. The Old World species, including two additional new species, are included in the genus *Aneurobracon* Brues, 1930 (stat. nov.). Finally a new genus from C. America has been included which has several less derived characters than both other genera. A redefinition of the subtribe Mesocoelina has been necessary in order to include the latter genus. The species are rarely collected and few have been reared; all only as parasites of the mining larvae of Gracillariidae.

For the terminology used in this paper, see van Achterberg (1988: 5-11).

### Phylogeny

Traditionally the genus *Mesocoelus* Schulz has been included in the subfamily Agathidinae (Muesebeck, 1932; Shenefelt, 1970). The discovery of a semi-circular depression on the scutellum medio-posteriorly and the lack of pegs near the apex of the hind tibia caused doubt about its placement in the Agathidinae. Agathidinae normally have no medio-posterior depression (the absence of a depression is considered to be the plesiomorphous state, but if it is secondary by reduction it has to be considered apomorphous) and have short pegs on the hind tibia (the apomorphous state). Additionally the extreme reduction of the venation of the fore wing (fig. 14) makes placement of the genus even more difficult; also the vein 1-SR (fig. 87) may be present (and this vein is connected to the parastigma (figs. 14, 53, 68, 77; this plesiomorphous character-state was overlooked by Sharkey (1986)). Van Achterberg (1984) proposed the exclusion of the genus *Mesocoelus* Schulz and its sister-group, the genus *Aneurobracon* Brues from the Agathidinae and included it provisionally as a separate tribe (Mesocoelini Viereck) in the subfamily Orgilinae. Additional research by Sharkey (1986) revealed that occasionally the medio-posterior depression of the scutellum may be present in the genus *Bassus* Fabricius (Agathidinae: Agathidini: Agathidina; fig. 90). Based on other data van Achterberg (1987) also concluded that the Mesocoelini do not belong in the Orgilinae and are closely related to Agathidinae.

The group seems distinct enough to form the subtribe Mesocoelina Viereck, because of the slender hind trochanter, the reduced fore wing venation and the long hind legs. The discovery of the new Neotropical genus described in this paper makes it clear that the Mesocoelini have to be included in the tribe Agathidini Foerster, despite the fact that the new genus has no distinct medio-posterior depression on the scutellum (figs. 5, 8). The inclusion is inevitable because two new species (*Aneurobracon notaulicus* (fig. 39) and *Plesiocoelus bassiformis* (fig. 2) have at least one distinct peg near the apex of the hind tibia, and because *Plesiocoelus* gen. nov. has an intermediate state of the venation of the fore wing and setosity of hind leg (figs. 3, 10). Together with the parastigma disconnected from vein C+SC+R of fore wing (figs. 3, 68, 87) and posteriorly diverging veins 1-M and m-cu of fore wing (figs. 3, 44) these characteristics constitute a unique set of synapomorphies with the Agathidinae, warranting inclusion of the Mesocoelina in the Agathidinae-Agathidini.

Van Achterberg (1985) included in the Agathidinae the new tribe Pselaphanini (containing only the Neotropical genus *Pselaphanus* Szépligeti) because it has also the veins m-cu and 1-M of fore wing diverging posteriorly, the hind trochanter rather widened, the scutellum without depression, and vein M+CU1 of fore wing largely unsclerotized. However, the diverging veins 1-M and M+CU occur (exceptionally) also in the subfamily Sigalphinae and vein M+CU1 of fore wing may be largely sclerotized in some specimens of *Pselaphanus*. The genus *Pselaphanus* lacks the hind tibial pegs present in the Agathidinae, the marginal cell of fore wing is large and the first subdiscal cell of fore wing is strongly widened apically (parallel-sided in Agathidinae). In addition the hind trochanter is also more or less widened as in the Sigalphinae. It shares with the Sigalphinae also the sclerotized vein 2-CU of hind wing and the setose, rather convex base of the vannal cell of fore wing. The tribe Pselaphanini van Achterberg, 1985 is not transferred to the Sigalphinae as suggested by Dr M. Sharkey (pers. comm.), but given subfamily status in the Agathidinae/Sigalphinae complex, and is considered to be the sister-group of the Agathidinae. Aberrant for the Sigalphinae is the absence of the medio-posterior depression of the scutellum, which may have been lost secondarily in the Pselaphaninae.

As a result in the Agathidinae there remain two large groups (as pointed out by Nixon (1986). One group with the fore claw bifurcate, the area between the antennal sockets with pair of protuberances (exceptionally with only a single truncate protuberance or with a trough) and outer face of middle tibia without pegs above apical pegs, and occurring predominantly in the tropics. The oldest (and only available) name for this tribe is Vipionini Gahan, 1917 (proposed as Vipiinae by Gahan, but emended by Viereck (1918) in Vipioninae). The other tribe (Agathidini Nees, 1814 [= Bassini Nees, 1812]) has the fore claw simple or with a lobe, area between antennal sockets flat, with single crest or with rounded elevation (very exceptionally with pair of protuberances), outer face of middle tibia with pegs above apical pegs and occurring predominantly in temperate regions. It is obvious that the subtribe Mesocoelina fits well in the tribe Agathidini, but differs from the Agathidini s.s. (= subtribe Agathidina) by the complete loss of vein SR1 of fore wing, the elongate hind coxa, the slender hind trochanters and aberrant head sclerites of the third larval instar (Čapek, 1970). Further research on the Agathidini may even show that the subtribe Agathidina is made paraphyletic by the separation of the subtribe Mesocoelina. Until further data become available it seems most convenient to unite the three genera treated in this paper as the subtribe Mesocoelina Viereck.

#### Subtribe Mesocoelina Viereck, 1918 stat. nov.

Mesocoelini Viereck, 1918: 69.

Aneurobraconinae Fahringer, 1936: 587.

Diagnosis. — Body small and slender (figs. 1, 13, 43), 2.1-3.7 mm long; length of fore wing 2.0-3.1 mm; antennal segments 23-32; clypeus normal (fig. 15); labio-maxillary complex not enlarged (figs. 1, 33, 43); area between antennal sockets evenly convex or with single crest (figs. 7, 9), but with pair of crests in *Aneurobracon bequaerti* (fig. 58) and *Mesocoelus acrocercopis* (fig. 15); frons without lateral carina and without

depression in front of anterior ocellus (figs. 9, 50, 66); stemmaticum normal (fig. 7); antennal sockets without lamellae (figs. 9, 40, 58); malar suture absent; mandible with dorsal tooth much larger than ventral tooth, sometimes nearly unidentate; pronope absent (figs. 8, 37, 73); metapleuron and first tergite granulate (figs. 43, 48, 52); precoxal sulcus narrow and at least posteriorly depressed (figs. 1, 13); lateral carina of mesoscutum absent or weakly developed but distinct in *Plesiocoelus*; mesopleuron more or less protruding caudad ventro-posteriorly (figs. 1, 13, 62); middle lobe of mesoscutum evenly convex (figs. 8, 37); scutellum without elevation subapically (fig. 8), often with semi-circular depression medio-posteriorly (figs. 47, 78); episternal scrobe round, or nearly so and more or less removed from pleural sulcus (figs. 1, 33); propodeal spiracle round (figs. 8, 33); veins SR1, 1-SR+M, r-m and 3-SR of fore wing absent (fig. 3, 36); vein M+CU1 of fore wing not sclerotized; vein 1-SR of fore wing separated from (fig. 36) or connected to parastigma (figs. 14, 53); pterostigma usually wide basally (figs. 1, 53, 68); vein r of fore wing emitted from basal 0.25-0.4 of pterostigma (fig. 3, 14, 53, 68); vein M+CU of hind wing distinctly shorter than vein 1-M (figs. 3, 14); wing membrane hyaline; hind coxa slender (figs. 1, 33, 83); hind leg enlarged, up to 3.5 times as long as fore leg (figs. 83, 85); apical third of outer face of middle tibia with (minute) pegs; hind trochanter not distinctly wider than hind trochantellus; outer ventral margin of hind trochantellus without carina; hind tibia with medium-sized to long dark brown or blackish bristles (figs. 2, 16); fore tarsal claws simple or with lobe; laterope deep and (rather) large (figs. 1, 33, 43, 52); second metasomal tergite more or less granulate; ovipositor slender apically, without notch or nodus dorsally, and without ventral teeth (figs. 1, 43, 62); length of ovipositor sheath 0.4-0.8 times fore wing.

Contains three genera: *Aneurobracon* Brues, *Mesocoelus* Schulz, and *Plesiocoelus* gen. nov.

Biology. — Endoparasites of caterpillars of Gracillariidae.

### Key to genera of the subtribe Mesocoelina

1. Veins CU1 and m-cu of fore wing sclerotized (fig. 3); vein r of fore wing emitted near basal 0.4 of pterostigma (fig. 3); tarsal claw with lobe (fig. 12); prepectal carina low on mesopleuron (fig. 1); propodeal spiracle medium-sized, close to anterior margin of propodeum, distance between anterior margin and spiracle about equal to diameter of spiracle (fig. 8); frons near inner side of antennal sockets distinctly impressed (fig. 9); hind tarsus distinctly depressed; hind trochantellus about as long as hind trochanter (fig. 10); hind trochanter distinctly widened; temple concave behind malar space (figs. 1, 6); hind tibia with numerous medium-sized bristles (fig. 2); vein 1-R1 of fore wing longer than pterostigma (fig. 3); frons with median crest (fig. 7); scutellum without semi-circular depression posteriorly (fig. 5); length of inner hind spur 0.5-0.6 times hind basitarsus (fig. 10); (Neotropical)..... *Plesiocoelus* gen. nov.
- Veins CU1 and m-cu of fore wing largely absent, only as unpigmented fold (figs. 14, 53); vein r of fore wing emitted near basal 0.3 of pterostigma (figs. 33, 68); tarsal claws single (figs. 21, 69); prepectal carina higher on mesopleuron (fig. 43) or absent (fig. 13); propodeal spiracle small, distance between spiracle and anterior margin of propodeum about equal to diameter of spiracle (fig. 8); frons near inner side of antennal sockets distinctly impressed (fig. 9); hind tarsus distinctly depressed; hind trochantellus about as long as hind trochanter (fig. 10); hind trochanter distinctly widened; temple concave behind malar space (figs. 1, 6); hind tibia with numerous medium-sized bristles (fig. 2); vein 1-R1 of fore wing longer than pterostigma (fig. 3); frons with median crest (fig. 7); scutellum without semi-circular depression posteriorly (fig. 5); length of inner hind spur 0.5-0.6 times hind basitarsus (fig. 10); (Neotropical)..... *Plesiocoelus* gen. nov.

- or margin of propodeum much longer than diameter of spiracle (fig. 43); frons near inner side of antennal sockets flat (fig. 50); hind tarsus normal, subcylindrical; hind trochantellus usually distinctly longer than hind trochanter (fig. 49); hind trochanter slender, hardly or not wider than trochantellus; temple evenly convex subventrally (figs. 13, 52); hind tibia with several long dark brown bristles (fig. 16); vein 1-R1 of fore wing about as long as pterostigma or shorter (figs. 14, 44); frons without crest (fig. 17); scutellum with semi-circular depression medio-posteriorly (figs. 18, 47), but sometimes superficial; length of inner hind spur 0.6-0.9 times hind basitarsus (figs. 16, 49) ..... 2
2. Prepectal carina (fig. 13) and notauli (fig. 18) completely absent; mesopleuron largely smooth and shiny (fig. 23); first metasomal tergite slightly (1.1-1.2 times) longer than wide apically (figs. 20, 32); (Neotropical) ..... *Mesocoelus* Schulz
- Prepectal carina (finely) developed (figs. 33, 62); notauli (largely) impressed (figs. 37, 61, 75); mesopleuron granulate and rather dull (figs. 33, 52); length of first tergite 1.5-2.2 times its apical width (figs. 38, 48, 60); (Afrotropical, E. Palaearctic, Indo-Australian, Pacific) ..... *Aneurobracon* Brues

***Aneurobracon* Brues, 1930 stat. nov.**

*Aneurobracon* Brues, 1930: 1002-1003, fig. 9a-c, Shenefelt, 1970: 422 (as synonym of *Mesocoelus* Schulz, 1911).

Type-species: *Aneurobracon bequaerti* Brues, 1930 (by monotypy).

Diagnosis. — Head not or somewhat elongate (figs. 35, 58); temple evenly convex subventrally (fig. 43); pedicellus rather large (fig. 33, 67); frons near inner side of antennal sockets flat, no median crest and at most with median groove (figs. 35, 50, 57); epomia absent; subpronope double (fig. 33) or absent (fig. 75); prepectal carina normal, complete and rather high on mesopleuron (figs. 33, 43); precoxal sulcus (nearly) complete (figs. 33, 75); mesopleuron granulate and rather dull; metapleural flange absent (fig. 75) to distinct (fig. 43); notauli (largely) impressed, smooth to finely crenulate (figs. 37, 61, 75); scutellum with semi-circular depression posteriorly (figs. 37, 47, 59), but sometimes superficial and evenly convex to flat posteriorly (figs. 33, 62); propodeum largely granulate (figs. 33, 43, 52), with median carina as oval area (figs. 37, 47, 78); propodeal spiracle small, distance between spiracle and anterior margin of propodeum much longer than diameter of spiracle (fig. 33); vein 1-R1 of fore wing about as long as pterostigma or shorter (figs. 36, 53); veins CU1, 2-SR+M, 2-SR and m-cu of fore wing unsclerotized, at most as fold present (figs. 36, 44, 77); vein r of fore wing emitted near basal third of pterostigma (figs. 36, 53); vein 2-CU of hind wing absent (fig. 44); length of fore tibial spur about 0.6 times fore spur (fig. 85); hind trochantellus distinctly longer than hind trochanter (figs. 41, 49, 56); hind tibia with numerous long dark bristles (figs. 39, 49, 72, 83); tarsal claws without lobe (figs. 42, 51); hind tibia with at most one minute peg apically (figs. 39, 70); hind tarsus subcylindrical; length of inner hind spur 0.6-0.9 times hind basitarsus (figs. 41, 56, 72); length of first metasomal tergite 1.5-2.2 times its apical width (figs. 38, 48, 60); second tergite without (figs. 33, 62) or with sharp lateral crease (figs. 43, 75); second metasoma

mal suture narrow (fig. 48) to obsolescent (fig. 82); length of ovipositor sheath 0.4-0.5 times fore wing; hypopygium of female medium-sized and apically acute (figs. 52, 62); length of fore wing 2-3 mm.

Distribution. — Palaetropical and SE. Palaearctic: five species.

Biology. — Parasites of Gracillariidae.

### Key to species of the genus *Aneurobracon*

1. Inner hind tibial spur 0.6-0.7 times hind basitarsus (figs. 41, 49); antennal segments 24-27 (♀ ♂); second metasomal suture distinctly impressed (fig. 48); penultimate antennal segment of ♀ 1.6-1.7 times its width (fig. 45; unknown of *notaulicus*); (Pacific, New Guinea) ..... 2
- Inner hind tibial spur about 0.9 times hind basitarsus (figs. 56, 72, 83); antennal segments 23-24 (♀ ♂), but about 28 (♀) in *bequaerti*; second metasomal suture shallowly impressed (fig. 60) or obsolescent; penultimate antennal segment of ♀ about 2 times its width (figs. 63, 76); (Afrotropical, Oriental, Palaearctic) ..... 3
2. Notauli deep (fig. 37); pronotum with pair of deep pits antero-laterally (fig. 33); epistomal suture complete (fig. 33); pedicellus dark brown; propodeum with complete median carina, and without oval medial area (fig. 37); vein 1-R1 of fore wing about as long as pterostigma (fig. 36); pterostigma comparatively robust (fig. 36); vein 1-M of fore wing short (fig. 36); vein M+CU of hind wing largely reduced (fig. 36); vein cu-a of fore wing less oblique than vein 1-M (fig. 36); second metasomal tergite largely superficially granulate; (New Guinea) ..... *A. notaulicus* spec. nov.
- Notauli shallow (fig. 47); pronotum without pair of pits antero-laterally (fig. 43); epistomal suture absent medially (fig. 46); pedicellus yellowish; propodeum with oval medial area enclosed by rugae (fig. 47); vein 1-R1 of fore wing distinctly shorter than pterostigma (fig. 44); pterostigma moderately slender (fig. 44); vein 1-M of fore wing longer (fig. 44); vein M+CU of hind wing present (fig. 44); vein cu-a of fore wing similarly oblique as vein 1-M (fig. 44); second metasomal tergite smooth or slightly granulate; (Pacific: Samoa, Tonga) ..... *A. samoanus* Fullaway
3. Antennal segments of ♀ about 28; hind trochanter and trochantellus dark brown; notauli wide and obsolescent posteriorly (fig. 59); vein 1-R1 of fore wing about 0.8 times length of pterostigma (fig. 53); vein r of fore wing very short or obsolescent (fig. 53); pair of crests between antennal sockets present (fig. 58); (Afrotropical) ..... *A. bequaerti* Brues
- Antennal segments of ♀ 23-24; hind trochanter and trochantellus whitish or yellowish; notauli narrow (but shallow) posteriorly (figs. 61, 78); vein 1-R1 of fore wing 0.5-0.6 times length of pterostigma (figs. 68, 77); vein r of fore wing medium-sized (figs. 64, 77); area between antennal sockets evenly convex (fig. 79); (Oriental & Palaearctic) ..... 4
4. Length of ovipositor sheath 0.5-0.6 times fore wing (figs. 62, 64); vein cu-a of fore wing less oblique than vein 1-M (figs. 64, 68); hind trochanter yellowish; middle femur yellowish-brown; head more narrowed ventrally (fig. 65); (Philippines, Japan) ..... *A. philippinensis* (Muesebeck)

- Length of ovipositor sheath 0.4-0.5 times fore wing (figs. 75, 77); vein cu-a of fore wing similarly oblique as vein 1-M (fig. 77); hind trochanter white or whitish; middle femur (rather dark) brown; head less narrowed ventrally (fig. 79); (India)  
..... *A. annulipes* spec. nov.

***Aneurobracon annulipes* spec. nov.**

(figs. 75-86)

**Material.** — Holotype, ♀ (BMNH): "India: Kerala, Perigar A. Sanc., 5-15.x.1979, J.S. Noyes". Paratype: 1 ♀ (RMNH): "India: Karnataka, Mudigere, 26.x.-4.xi.1979, J.S. Noyes".

Holotype, ♀, length of body 2.6 mm, of fore wing 2.5 mm.

**Head.** — Antennal segments 23, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 4.0, 3.4, and 2.1 times their width, respectively (fig. 75, 76); length of maxillary palp 0.7 times height of head; length of eye in dorsal view 3.1 times temple (fig. 80); OOL: diameter of ocellus: POL = 8:3:4; frons smooth behind antennal sockets, and granulate laterally (fig. 80); vertex shiny granulate; face superficially coriaceous; epistomal suture absent medially; occipital flange indistinct; length of malar space 2.5 times basal width of mandible.

**Mesosoma.** — Length of mesosoma 1.5 times its height; side of pronotum granulate; mesosternal suture rather shallow and sculptured; precoxal sulcus complete, narrow and crenulate (fig. 75); mesoscutum granulate and rather densely setose; notauli narrow, complete and finely crenulate (fig. 78); scutellum granulate; propodeum with medium-sized median carina, posteriorly indistinct and continued as rugae (fig. 78).

**Wings.** — Fore wing: length of pterostigma 1.7 times 1-R1 (fig. 77); 1-SR distinctly connected to parastigma (right wing, figured), indistinctly connected (left wing) or narrowly disconnected (paratype); cu-a antefurcal (with 0.7 of its length) and similarly reclivous as vein 1-M (fig. 77); r medium-sized (fig. 77).

**Legs.** — Hind coxa granulate; length of femur, tibia and basitarsus of hind leg 4.7, 10.6 and 8.7 times their width, respectively; length of hind tibial spurs 0.5 and 0.9 times hind basitarsus.

**Metasoma.** — Length of first tergite 2.0 times its apical width, its surface superficially striate, nearly flat basally, and moderately convex medially (fig. 82); second tergite smooth; second suture shallow; third tergite with shallow transverse depression (figs. 75, 82); length of ovipositor sheath 0.46 times fore wing.

**Colour.** — Black(ish); metasoma brownish baso-ventrally; tegulae, terostigma, parastigma, and vein C+SC+R of fore wing dark brown; palpi brown, but apical segment of maxillary palp yellowish; fore and middle legs yellowish-brown, but coxae, trochantelli and femora dorsally brownish; fore and middle tarsi rather whitish; hind trochanter and trochantellus, and base of hind femur white.

**Variation.** — Paratype: very similar to holotype; length of ovipositor sheath 0.40 times fore wing; tegulum blackish; apical three segments of maxillary palp yellowish.

***Aneurobracon bequaerti* Brues, 1930**  
(figs. 52-60)

*Aneurobracon bequaerti* Brues, 1930: 1002-1003, figs. 9a-c.

*Mesocoelus bequaerti*; Shenefelt, 1970: 422.

Material. — Holotype, ♀ (MCZ): "M.C.Z., H. Typ. 29944", "Du No. 3 [= Firestone Camp. No. 2, right bank of Du River], Liberia, July 28, 1926", "*Aneurobracon bequaerti* Brues, Type".

Holotype, ♀, length of body 2.8 mm, of fore wing 2.5 mm.

Head. — Antennal segments 26, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 3.7, 3.3 and 2.5 times their width, respectively (fig. 52); length of maxillary palp 0.7 times height of head; length of eye in dorsal view 4.0 times temple (fig. 57); OOL:diameter of ocellus:POL = 14:5:7; frons and vertex granulate; face finely granulate, with deep groove between antennal sockets, and resulting in pair of short crests (figs. 57, 58), which is absent in other species of *Aneurobracon*; epistomal suture absent medially; occipital flange narrow (fig. 52); length of malar space 1.7 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; side of pronotum finely granulate; precoxal sulcus deep and granulate only (fig. 52); mesoscutum granulate, and along notauli and medio-posteriorly setose; notauli wide and obsolescent posteriorly, and narrow anteriorly, only indistinctly rugose (fig. 59); scutellum finely granulate; propodeum without carinae.

Wings. — Fore wing: pterostigma about as long as 1-R1 (fig. 53); 1-SR connected to parastigma (fig. 53); cu-a subinterstitial and reclivous (fig. 53); r minute (left wing, fig. 53) or virtually absent (right wing).

Legs. — Hind coxa granulate and with dorso-apical depression, resulting in an external flange (fig. 52); length of femur, tibia and basitarsus of hind leg 4.8, 10.5 and 11 times their width, respectively; length of hind tibial spurs 0.6 and 0.9 times hind basitarsus.

Metasoma. — Length of first tergite 1.6 times its apical width, its surface distinctly granulate, shallowly concave basally and rather flat medially (fig. 60); second tergite largely smooth, with some microsculpture; second suture shallow (fig. 60); third tergite without transverse suture; length of ovipositor sheath 0.4 times fore wing.

Colour. — Blackish; second metasomal tergite and bases of following tergites reddish-brown; palpi, fore and middle legs, tegulae, vein C+SC+R, para- and pterostigma, and metasoma ventrally brownish; antenna dark reddish-brown; middle tibial spurs whitish-yellow.

Distribution. — Liberia.

***Aneurobracon notaulicus* spec. nov.**  
(figs. 33-42)

Material.— Holotype, ♂ (CNC): "Papua, N[ew] G[uinea], Kuk, W. Highl[ands] Dist., '76, Mt. Hagen, 1700 m".

Holotype, ♂, length of body 3.5 mm, of fore wing 3.0 mm.



Head. — Antennal segments 25, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 4.7, 4.0 and 2.3 times their width, respectively (figs. 33, 34); length of maxillary palp 0.9 times height of head; length of eye in dorsal view 2.4 times temple (fig. 40); OOL:diameter of ocellus:POL = 13:5:9; frons granulate with distinct median groove (figs. 35, 40); vertex finely granulate; face superficially granulate and distinctly punctulate (fig. 35); epistomal suture distinct medially (fig. 35); occipital flange narrow; length of malar space 2.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.9 times its height; side of pronotum with pair of deep pits anteriorly and largely granulate (fig. 33); mesosternal suture rather shallow and narrow, largely smooth but apically wider and with some crenulae; precoxal sulcus nearly complete (fig. 33), narrow and finely crenulate; mesoscutum granulate and largely glabrous; notauli deep, narrow, complete and finely crenulate, posteriorly united in median groove (fig. 37); scutellum granulate; propodeum with strong, but rather irregular median carina (fig. 37).

Wings. — Fore wing: length of pterostigma about twice 1-R1 (fig. 36); 1-SR disconnected from parastigma (fig. 36); cu-a subinterstitial and slightly oblique; r rather long (fig. 36).

Legs. — Hind coxa granulate; length of femur, tibia and basitarsus of hind leg 4.0, 9.2 and 7.4 times their width, respectively; length of hind tibial spurs 0.3 and 0.7 times hind basitarsus (fig. 41).

Metasoma. — Length of first tergite 2.2 times its apical width, its surface coarsely granulate, flat basally and convex medially (fig. 38); second tergite finely granulate; second suture fine but distinct (figs. 33, 38).

Colour. — Black; palpi, antenna, tegulae, pterostigma, veins, fore and middle coxae, fore telotarsus, three apical segments of middle tarsus, hind leg (including spurs, but except black coxa and yellowish apex of trochantellus and base of femur) and metasoma dark brown; remainder of fore and middle legs brownish-yellow.

***Aneurobracon philippinensis* (Muesebeck, 1932) comb. nov.**  
(figs. 61-74)

*Mesocoelus philippinensis* Muesebeck, 1932: 230; Shenefelt, 1970: 423; Bhat & Gupta, 1977: 97-98, figs. 14a-c.

Material. — Holotype, ♀ (USNM): "Mt. Makiling, Luzon, Baker", "Type No. 44665, U.S.N.M., *Mesocoelus philippinensis* Mues., Type, Oct. Muesebeck"; 1 paratype, ♂, (USNM): "Los Banos, P.I., Baker", "Paratype No. 44665, U.S.N.M."; 1 ♀, (USNM): Japan, "(Kyushu), Hikosan, (Buzen), 5.XI.1954, H. Kuroko", "*Acrocercops* sp., No. 218", "*Mesocoelus philippinensis* Mues., det. Mues."

Holotype, ♀, length of body 2.8 mm, of fore wing 2.5 mm.

Head. — Antennal segments 24, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.7, 3.2 and 2.1 times their width, respectively (fig. 62, 63); length of maxillary palp 0.6 times height of head; length of eye in dorsal view 5 times temple (fig. 66); OOL:diameter of posterior ocellus:POL = 7:4:3; frons granulate and slightly depressed (fig. 66); vertex shiny granulate; face punctulate-granulate; area between antennal sockets evenly convex (fig.

65); epistomal suture nearly absent medially (fig. 65); occipital flange narrow; length of malar space 1.8 times basal width of mandible; head rather narrowed ventrally (fig. 65).

**Mesosoma.** — Length of mesosoma 1.5 times its height; side of pronotum striate-granulate medially and posteriorly, remainder granulate (fig. 62); precoxal sulcus complete, narrow, and narrowly crenulate, but distinct anteriorly (fig. 62); mesoscutum and scutellum distinctly granulate; notauli complete but shallowly impressed, indistinctly crenulate (fig. 61); propodeum with nearly complete and weak median carina (fig. 61).

**Wings.** — Fore wing: length of pterostigma 1.9 times 1-R1 (fig. 64); 1-SR distinctly connected to parastigma (fig. 64, 68); cu-a antefurcal (fig. 64) or subinterstitial (fig. 68) and somewhat less reclivous than 1-M; r medium-sized and somewhat reclivous (figs. 64, 68).

**Legs.** — Hind coxa granulate; length of femur, tibia and basitarsus of hind legs 4.9, 10.0 and 8.8 times their width, respectively; length of hind tibial spurs 0.4 and 0.9 times hind basitarsus; apex of hind tibia without pegs (fig. 79).

**Metasoma.** — Length of first tergite 2.0 times its apical width, its surface finely aciculate (basally coarser) and narrow apical part smooth (fig. 71), nearly flat basally, and rather convex medially; second tergite smooth except for some indistinct granulation, second suture shallow (figs. 62, 71); third tergite without shallow transverse depression; length of ovipositor sheath 0.51 times fore wing.

**Colour.** — Black(ish); fore and middle legs (but coxae, except apex, largely brown), hind trochanter and trochantellus (latter very pale), apex of hind femur and base of hind tibia yellowish; tegulae, pterostigma and most veins dark brown; hind coxa black; remainder of legs dark brown; palpi rather dark brown but apical segment of maxillary palp pale; pedicellus paler than scapus; scapus and flagellum dark brown.

**Distribution.** — Philippines, Japan (Kyushu).

**Biology.** — Parasite of *Acrocercops transecta* Meyrick (Gracillariidae).

**Variation.** — Antennal segments of ♀ 24(2), of ♂ 23(1) or 24(2); three basal antennal segments of ♂ yellowish; hind trochanter and trochantellus whitish or yellowish; vein 1-R1 of fore wing 0.5-0.6 times length of pterostigma; length of first metasomal tergite 1.8-2.0 times its apical width; length of ovipositor sheath 0.51-0.56 times fore wing; length of fore wing 2.5 mm, and of body 2.8-3.1 mm.

### ***Aneurobracon samoanus* Fullaway, 1941** (figs. 43-51)

*Aneurobracon samoanus* Fullaway, 1941: 45-46; Wharton, 1982: 299.

*Mesocoelus samoanus*; Shenefelt, 1970: 423.

**Material.** — Holotype, ♀ (BPBM) "Afiamalu, Upolu, Samoa, vi-9-40", "2200 feet", "O.H. Swezey Collector", "ex leafroller host(?)", "Type *Aneurobracon samoanus*"; 1 paratype, ♂ (BPBM): "Fagatoga, Tutuila, Samoa, viii-3-40", "C.H. Swezey Collector", "ex leafminer in *Operculina*", "Allotype"; 1 ♀ (CNC): "Samoa: Tutuila, Vatia, 0-200 m, 9.iii.1971", "N.L.H. Krauss Collector, Bishop Museum", "Homotype *Aneurobracon samoanus* Full., compared by Sharkey"; 1 ♂ (CNC): "Tapatapao, Upolu, Samoa, vii-20-40", "800-1000 ft", "C.H. Swezey Collector", "ex leafminer in yam", "original cotype"; 1 ♂ (CNC): "Tonga Is.: Tongatapu Is., 11.vii.1973".

Holotype, ♀, length of body 3.5 mm, of fore wing 2.9 mm, of hind leg 5.3 mm.

Head. — Antennal segments 27, length of third segment 1.1 times fourth segments, length of third, fourth, and penultimate segments 3.2, 2.8, and 1.6 times their width, respectively (figs. 43, 45); length of maxillary palp 0.6 times height of head; length of eye in dorsal view 3.7 times temple (fig. 50); OOL: diameter of posterior ocellus: POL = 8:4:4; frons granulate, slightly elevated medially (fig. 50); area between antennal sockets nearly flat (fig. 46); face and vertex granulate; epistomal suture absent medially (fig. 46); occipital flange narrow (fig. 43); length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.7 times its height; side of pronotum granulate, with some medial crenulae (fig. 43); precoxal sulcus obsolescent anteriorly, remainder narrow and crenulate (fig. 43); mesoscutum and scutellum granulate and setose; notauli complete, largely smooth, narrow and posteriorly shallow (fig. 47); propodeum with oval figure of rugae and anteriorly with very weak median carina (fig. 47).

Wings. — Fore wing: length of pterostigma 1.6 times 1-R1 (fig. 44); 1-SR disconnected from parastigma; cu-a antefurcal and nearly oblique as 1-M; r rather long, half as long as width of pterostigma (fig. 44).

Legs. — Hind coxa granulate; length of femur, tibia and basitarsus of hind leg 4.0, 9.3 and 8.2 times their width, respectively; length of hind tibial spurs 0.4 and 0.65 times their basitarsus.

Metasoma. — Length of first tergite 2.1 times its apical width, basal half of its surface striate, and remainder largely granulate (fig. 48), slightly concave basally and rather convex medially; second tergite distinctly convex (fig. 43) and smooth; second suture deep (figs. 43, 48); third tergite without transverse depression; length of ovipositor sheath 0.43 times fore wing.

Colour. — Blackish to nearly dark brown; antenna dark brown but scapus ventrally brownish and pedicellus completely yellowish; tegulae, second and base of third tergites, pterostigma, hind femur, tibia and tarsus rather dark brown; hind trochanter and trochantellus, fore and middle legs and palpi yellowish.

Variation. — Length of body 2.4-3.5 mm, and of fore wing 2.0-2.9 mm; antennal segments of ♀ 24(1) or 27(2), of ♂ 24(1) or 25(1); length of first metasomal tergite 2.0-2.1 times its apical width; length of ovipositor sheath 0.43-0.45 times fore wing; apex of first, second and (large part of) third tergites may be yellowish-brown.

Distribution. — Samoa, Tonga.

Biology. — Reared from unknown species of leafroller and -miner caterpillars.

### Mesocoelus Schulz, 1911

*Coelothorax* Ashmead, 1898: 165 (no species included) & 1900: 275 (nec Anceys, 1880).

*Mesocoelus* Schulz, 1911: 88 (nom. nov.); Shenefelt, 1970: 422.

Type-species: *Coelothorax laeviceps* Ashmead, 1900 (by monotypy).

Diagnosis. — Head not elongate (figs. 15, 24); temple evenly convex subventrally (fig. 26); frons near inner side of antennal sockets flat, without groove or crest; epo-

mia and subpronope absent (fig. 23); prepectal carina completely absent (fig. 13); precoxal sulcus complete and smooth (figs. 13, 23); mesopleuron largely smooth and shiny; metapleural flange absent (fig. 13) or minute (fig. 23); notauli completely absent (figs. 18, 31); scutellum with smooth semi-circular depression (figs. 18, 31), and flattened to weakly convex posteriorly (fig. 13, 23); propodeum largely granulate (fig. 23), with median carina (fig. 18), and without oval area; propodeal spiracle small (fig. 13); vein 1-R1 of fore wing shorter than pterostigma (fig. 14); veins CU1, 2-SR+M, 2-SR and m-cu of fore wing unsclerotized, at most partly as fold present (fig. 14); vein r of fore wing near basal quarter of pterostigma, short (fig. 14); vein 2-CU of hind wing absent (fig. 26); length of fore tibia about half as long as fore basitarsus (fig. 28); hind trochantellus as long as hind trochanter (fig. 30) or longer (fig. 16); hind tibia with numerous long dark bristles (figs. 16, 30); tarsal claws without lobe (figs. 21, 27); hind tibia without pegs apically; hind tarsus subcylindrical; length of inner hind tibial spur 0.6-0.9 times hind basitarsus (fig. 16); length of first metasomal tergite 1.1-1.2 times its apical width (figs. 20, 32); second tergite with sharp lateral crease (fig. 13); second metasomal suture obsolescent (figs. 20, 32); length of ovipositor sheath 0.4-0.5 times fore wing; hypopygium of ♀ acute apically, and small to medium-sized (figs. 13, 23); length of fore wing about 2 mm.

Distribution. — Neotropical: two species.

Biology. — Parasites of Gracillariidae.

### Key to species of the genus *Mesocoelus*

1. Mesoscutum with round depression medio-posteriorly (fig. 31); hind basitarsus about 5 times its width (fig. 30); epistomal suture absent medially (fig. 24); hind leg largely yellowish; length of ovipositor sheath equal to length of hind tibia (in fig. 23 less because it is bent out of plane of the figure); area between antennal sockets evenly convex (fig. 24)..... *M. laeviceps* (Ashmead)
- Mesoscutum without round depression medio-posteriorly (fig. 18); hind basitarsus about 9 times its width (fig. 16); epistomal suture shallowly impressed medially (fig. 15); hind leg largely dark brown or blackish; length of ovipositor sheath about 0.8 times hind tibia (fig. 13, 16); area between antennal sockets with pair of weak crests (fig. 15)..... *M. acrocercopis* Muesebeck

### *Mesocoelus acrocercopis* Muesebeck, 1932 (figs. 13-22)

*Mesocoelus acrocercopis* Muesebeck, 1932: 288-229, fig. 1; Shenefelt, 1970: 422.

Material. — Holotype, ♀ (USNM): "Parasite of *Acrocercops* n.sp.", "Abr. 2131, Stgo. Vegas [= Santiago de las Vegas, Cuba], Prov. Habana, A. Otero col.", "E.E.A. de Cuba, No. 9471 A", "6953 Phu", "Type No. 44664, U.S.N.M.", "*Mesocoelus acrocercopis* Mues., Type, Det. Muesebeck". Of the 3 paratypes only one male-paratype has been examined, topotypic, 2-31.IV.

Holotype, ♀, length of body 2.1 mm, of fore wing 2.0 mm.

Head. — Antennal segments 22, length of third segment 1.2 times fourth seg-

ment, length of third, fourth and penultimate segments 3.5, 3.0 and 1.7 times their width, respectively (fig. 13, 19); length of maxillary palp 0.5 times height of head; length of eye in dorsal view 3.5 times temple (fig. 17); OOL:diameter of ocellus:POL = 11:4:6; frons smooth; vertex superficially granulate; face granulate; area between antennal sockets with pair of crests (fig. 15); epistomal suture shallowly impressed medially (fig. 15); occipital flange narrow; length of malar space 1.3 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.8 times of height; side of pronotum superficially granulate; mesosternal suture smooth; precoxal sulcus smooth and complete (fig. 13); mesoscutum without medio-posterior depression, granulate, and largely glabrous; scutellum shiny and granulate; propodeum with short median carina, but obsolescent posteriorly.

Wings. — Fore wing: length of pterostigma:1-R1 = 33:14 (fig. 14); cu-a interstitial, and oblique as 1-M (fig. 14); r as short stub only (fig. 14).

Legs. — Hind coxa granulate; length of femur, tibia and basitarsus of hind leg 4.7, 9.0 and 8.7 times their width, respectively; length of hind tibial spurs 0.5 and 0.9 times hind basitarsus.

Metasoma. — Length of first tergite 1.2 times its apical width, its surface aciculate (fig. 20), rather flat basally and medially rather convex; second tergite superficially granulate medially and remainder smooth; length of ovipositor sheath 0.40 times fore wing and 0.8 times hind tibia.

Colour. — Blackish or dark brown; fore and middle legs, apex of hind coxa, trochanter, trochantellus, bases of hind femur and tibia yellowish; remainder of hind leg dark brown, (but black according to original description); pterostigma and veins dark brown.

Distribution. — Cuba.

Biology. — Parasite of *Acrocercops* sp. (Gracillariidae).

### **Mesocoelus laeviceps** (Ashmead, 1900)

(figs. 23-32)

*Coelothorax laeviceps* Ashmead, 1900: 276.

*Mesocoelus laeviceps*; Shenefelt, 1970: 422.

Material. — Holotype, ♀ (BMNH): "Type, H.T.", "St. Vincent, W.I., H.H. Smith, 209", "*Coelothorax laeviceps* Ashm., ♀, Type", "Holotype", "B.M. Type Hym. 3C.1637".

Holotype, ♀, length of body 2.3 mm, fore wing wanting.

Head. — Antenna missing but according to original description with 21 segments and up to 24 (Muesebeck, 1932); length of maxillary palp 0.5 times height of head; length of eye in dorsal view 2.3 times temple (fig. 25); OOL:diameter of ocellus:POL = 11:4:8; frons largely smooth; vertex granulate; face largely smooth, but dorso-medially somewhat granulate; area between antennal sockets evenly convex (fig. 24); epistomal suture absent medio-dorsally (fig. 24); occipital flange absent; length of malar space 1.2 times basal width of mandible.

Mesosoma. — Length of mesosoma 1.6 times its height; side of pronotum granulate; precoxal sulcus absent except for a smooth and wide depression (fig. 23); meso-

scutum with wide and deep depression medio-posteriorly (fig. 31), and granulate; scutellum granulate; propodeum with short carina anteriorly only (fig. 31).

Wings. — Fore wing missing.

Legs. — Hind coxa granulate; length of femur, tibia and basitarsus of hind legs 4.2, 6.5 and 5.3 times their width, respectively; length of hind tibial spurs 0.6 and 0.9 times hind basitarsus.

Metasoma. — Length of first tergite 1.1 times its apical width, its surface longitudinally aciculate (fig. 32), slightly concave basally and weakly convex medially; second tergite with some microsculpture, but laterally smooth; ovipositor sheath as long as hind tibia.

Colour. — Dark brown; palpi, legs and tegulae largely yellowish.

Distribution. — St. Vincent, Cuba.

Biology. — Parasite of *Chilocampyla psidiella* Busck (Gracillariidae).

### **Plesiocoelus** gen. nov.

Type-species: *Plesiocoelus bassiformis* spec. nov.

Etymology: from "plesios" (Greek for "near") and the generic name *Mesocoelus*, because it is a less derived group resembling *Mesocoelus*. Gender: masculine.

Diagnosis. — Head somewhat elongate (fig. 7) and with temple distinctly concave behind malar space (fig. 6); pedicellus medium-sized (fig. 1); frons distinctly concave behind and near inner side of antennal sockets (fig. 9), and with median crest, continuing on dorsal third of face (fig. 7); epomia distinct, single and subpronope shallow (fig. 8); prepectal carina low on mesopleuron (fig. 1), and complete; precoxal sulcus present posteriorly, and absent anteriorly (fig. 1); mesopleuron largely smooth; metapleural flange small (fig. 1); notauli narrow, complete, united in front of scutellar sulcus (fig. 8); scutellum steep posteriorly, without semi-circular depression posteriorly, and with some striae only (fig. 5); propodeum irregular reticulate-rugose, with median carina short, indistinct and without medial area (fig. 8); propodeal spiracle medium-sized and close to anterior margin of propodeum (fig. 8); vein 1-R1 of fore wing longer than pterostigma (fig. 3); veins CU1, 2-SR+M, 2-SR and m-cu of fore wing sclerotized; vein r of fore wing emitted near basal 0.4 of pterostigma (fig. 3); vein 2-CU of hind wing present as weak fold of membrane only; length of fore tibial spur 0.4 times fore basitarsus; hind tarsus distinctly depressed; length of inner hind spur 0.5-0.6 times basitarsus (fig. 10); hind trochantellus about as long as hind trochanter (fig. 10); hind tibia with numerous medium-sized dark bristles (figs. 2, 10); tarsal claws with lobe (fig. 12); apex of hind tibia with two pegs (fig. 2); length of first metasomal tergite about twice its apical width; second tergite with sharp lateral crease (fig. 1); second metasomal suture narrow (fig. 11); length of ovipositor sheath about 0.8 times fore wing; hypopygium of ♀ medium-sized and apically truncate (fig. 1); length of fore wing about 3 mm.

Distribution. — Neotropical: one species.

Biology. — Unknown.

Note. — Obviously not the direct link between the highly aberrant genus *Aneu-robracon* and normal Agathidini. It differs in several aspects from both other genera

of the Mesocoelina, e.g. the enlarged propodeal spiracles, the less elongate propodeum, the concave temples, the lack of scutellar depression posteriorly, the tarsal claws with lobe, the pedicellus not enlarged, the depression near inner side of antennal sockets present and the short hind trochantellus.

***Plesiocoelus bassiformis* spec. nov.**

(figs. 1 - 12)

**Material.** — Holotype, ♀ (CNC): "Ecuador Pich[incha], 47 km S. Sta. Domingo, Rio Palenque Sta., 22-31.vii.1976, S. & J. Peck". Paratypes: 2 ♂♂ + 1 ♀; 1♀ (RMNH): "Br. Honduras, Middlesex, 125 m, 18.iv.1965, E.C. Welling", 2 ♂♂, (CNC); "Columbia, Choco, 450-500 m, 5°45'N 76°30'W, J. Helava, 12.iv.[19]73".

Holotype, ♀, length of body 3.7 mm, of fore wing 3.1 mm.

**Head.** — Antennal segments 32, long whitish setose, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 4.0, 3.7 and 1.7 times their width, respectively (figs. 1, 4); maxillary palp with 5 segments and its length 0.8 times height of head; labial palp with 4 segments, but third segment minute; length of eye in dorsal view 2.8 times temple (fig. 9); OOL:diameter of ocellus:POL = 15:7:16; frons and vertex smooth; face and clypeus smooth and rather long whitish setose; epistomal suture obsolescent medially; occipital flange rather large (fig. 6); length of malar space 1.7 times basal width of mandible.

**Mesosoma.** — Length of mesosoma 1.5 times its height; side of pronotum smooth dorsally, its ventral half superficially punctate, and finely crenulate posteriorly; mesosternum sparsely punctulate; mesosternal suture deep and smooth; only posterior half of precoxal sulcus crenulate (fig. 1); mesoscutum with some punctures and microsculpture, strongly shiny and largely setose; scutellum smooth; diameter of propodeal spiracle about equal to distance between spiracle and anterior margin of propodeum (figs. 1, 8).

**Wings.** — Fore wing: length of pterostigma:1-R1 = 29:39; 1-CU1:2-CU1 = 1:20; cu-a vertical (fig. 3).

**Legs.** — Inner and dorsal side of hind coxa granulate, its outer side somewhat pimply and largely smooth; length of femur, tibia and basitarsus of hind leg 6.6, 10.8 and 8 times their maximum width, respectively; length of hind tibial spurs 0.4 and 0.55 times hind basitarsus.

**Metasoma.** — Length of first tergite 2.1 times its apical width, its surface largely shiny granulate, distinctly concave basally and medially rather flat; second tergite superficially granulate; length of ovipositor sheath 0.77 times fore wing.

**Colour.** — Black(ish); antenna, clypeus largely, tegulae, pterostigma, parastigma posteriorly, veins, hind leg (but main part of trochanter and trochantellus, bases of tibia and basitarsus and spurs yellowish), fore and middle telotarsi, apical half of second tergite and following tergites, and ovipositor sheath dark brown; malar space ventrally, middle tibia subbasally and apically brown; remainder of fore and middle legs yellowish; palpi, basal half of second tergite and metasoma ventrally pale yellowish or ivory.

**Variation.** — Length of body 3.2-3.7 mm, of fore wing 2.7-3.1 mm; antennal segments of ♀ 30(1) or 32(1); length of first tergite 1.9-2.1 times its apical width; length of

ovipositor sheath 0.74-0.77 times fore wing; posterior half of propodeum may have no rugae; second tergite may be completely dark brown or only anterior margin yellowish and following tergites black; small patch behind middle eyes (in lateral view) of males yellowish.

### Addendum

#### ***Bassus reductus* spec. nov.**

(figs. 87-93)

**Material.** — Holotype, ♂ (RMNH): "Museum Leiden, M. Panama, Level I, Barro Colorado Island, 9°9'30"N-79°51'W, 18-24.v.1977, H. Wolda, at light".

Holotype, ♂, length of body 2.5 mm, of fore wing 2.1 mm.

**Head.** — Antenna as long as body, with 25 segments (rather long whitish setose and third-twelfth segments subdivided in two), scapus short and robust, pedicellus medium-sized (half as long as scapus), length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segment 3.7, 3.4, and 1.7 times their width, respectively; length of maxillary palp 0.5 times height of head; frons setose and flat laterally; area behind antennal sockets (especially near their inner side) deeply impressed, smooth, and area between antennal sockets flat; OOL: diameter of ocellus: POL = 7:4:6; vertex smooth and sparsely setose; face and clypeus smooth, whitish setose, apistomal suture absent medially; length of eye in dorsal view 3.5 times temple (fig. 88); head somewhat elongated (fig. 89); length of malar space 2.6 times basal width of mandible.

**Mesosoma.** — Length of mesosoma 1.5 times its height; subpronope deep and single epomia strong; pronotal sides and mesopleuron smooth; precoxal sulcus complete, rather narrow and smooth; prepectal carina complete, and not above level of fore coxa; metapleuron largely smooth and whitish setose; mesoscutum smooth and evenly whitish setose; notauli complete, but only anteriorly deep and crenulate; scutellar sulcus deep and with three longitudinal carinae; scutellum flat and smooth, but near apical 0.4 with transverse depression and with smooth semi-elliptical depression medio-posteriorly (fig. 90); propodeal spiracle small and round; propodeum short, its surface coarsely irregularly reticulate-rugose, without media carina and with narrow medial area posteriorly.

**Wings.** — Fore wing: 1-SR+M and SR1 medially, largely absent (fig. 87); r extremely short and emitted from middle of pterostigma (fig. 87); cu-a far postfurcal and slightly oblique (fig. 87); 1-CU1:2-CU1 = 2:7; minute areolet present with long stalk (fig. 87). Hind wing: M+CU:1-M = 21:9; 2-CU present, basally sclerotized and connected to cu-a (fig. 87).

**Legs.** — Hind coxa sparsely punctulate and robust (fig. 92); hind femur robust and smooth; hind tibia rather robust, and normally setose, without dark bristles and with subapical cluster of pegs (fig. 92); hind tarsus not distinctly depressed but robust and densely setose; tarsal claws with acute lobe (fig. 91); middle tibia with cluster of pegs subapically, and no submedial pegs; length of femur, tibia and basitarsus of hind leg 3.4, 5.2 and 5 times their width, respectively (fig. 92); length of hind tibial spurs 0.4 and 0.55 times hind basitarsus.



**Metasoma.** — Length of first tergite 1.4 times its apical width, its surface largely longitudinally costate (fig. 93), and concave medio-basally; second tergite smooth with faint transverse impression, and convex; second suture distinct and smooth; remaining part of metasoma smooth and depressed.

**Colour.** — Dark brown; pedicellus, face, clypeus, malar space, frons and vertex laterally, temple, pronotum, mesoscutum and scutellum medially, mesopleuron (except antero-dorsally and ventrally), metapleuron medially, hind spurs, trochanter and trochantellus, and hind femur yellowish-brown; palpi, tegulae, fore and middle legs pale yellowish; base of hind tibia ivory; flagellum, pterostigma, veins and metasoma ventrally, brown; wing membrane subhyaline.

**Note.** — Superficially similar to the new genus *Plesiocoelus* because of the reduced vein SR1 of fore wing, but it is not closely related. The areolet of fore wing is present, the vein M+CU of hind wing is longer than vein 1-M, the hind coxa and the hind tibia are robust, the hind tibia with cluster of pegs apically, the temple is normal and the first tergite is robust.

#### List and abbreviations of (type-)depositories

- BMNH - British Museum (Natural History), London;  
BPBM - Bernice P. Bishop Museum, Honolulu;  
CNC - Canadian National Collection, Biosystematics Research Institute, Ottawa;  
MCZ - Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts;  
RMNH - Nationaal Natuurhistorisch Museum (Rijksmuseum van Natuurlijke Historie), Leiden.

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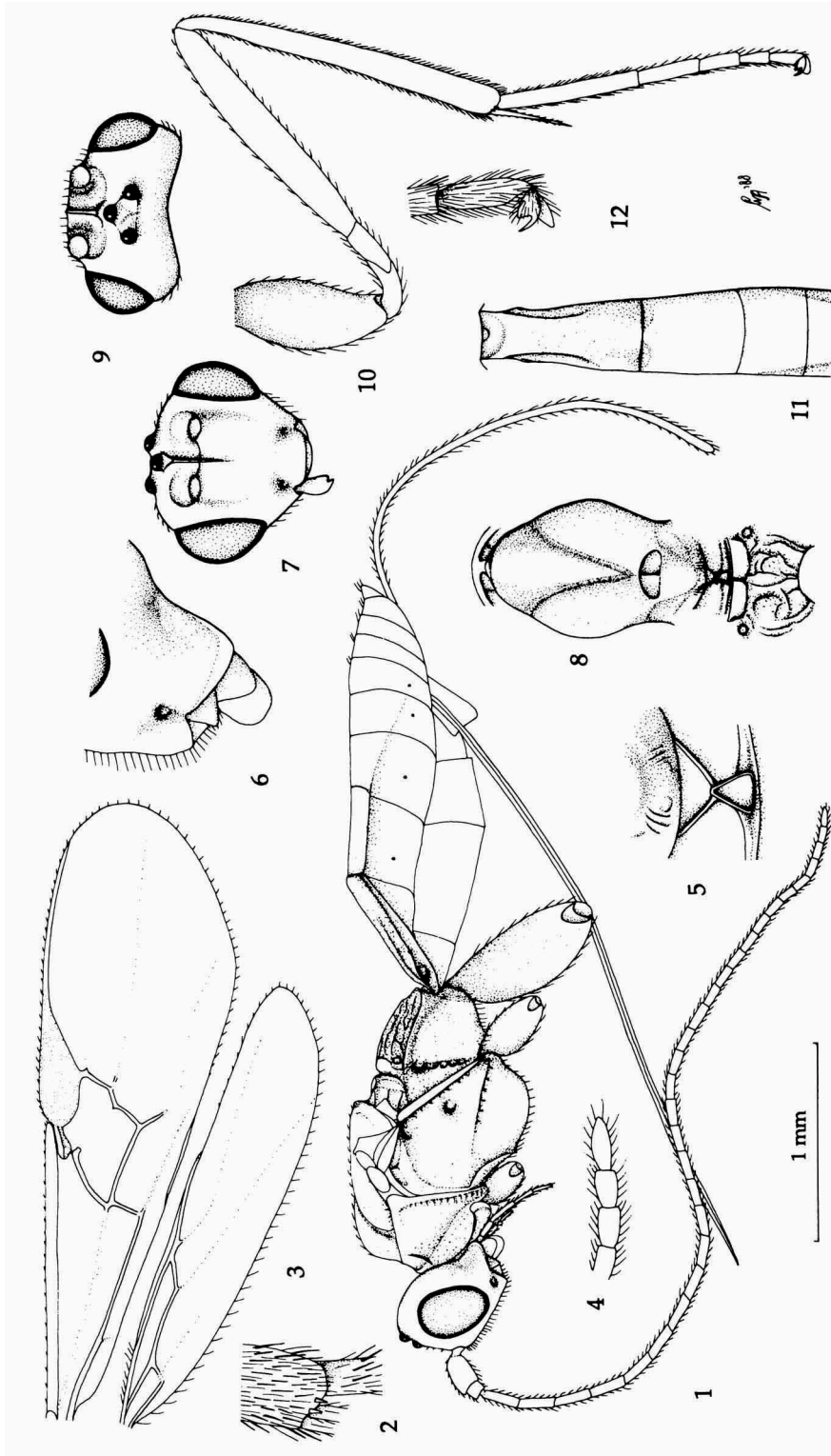
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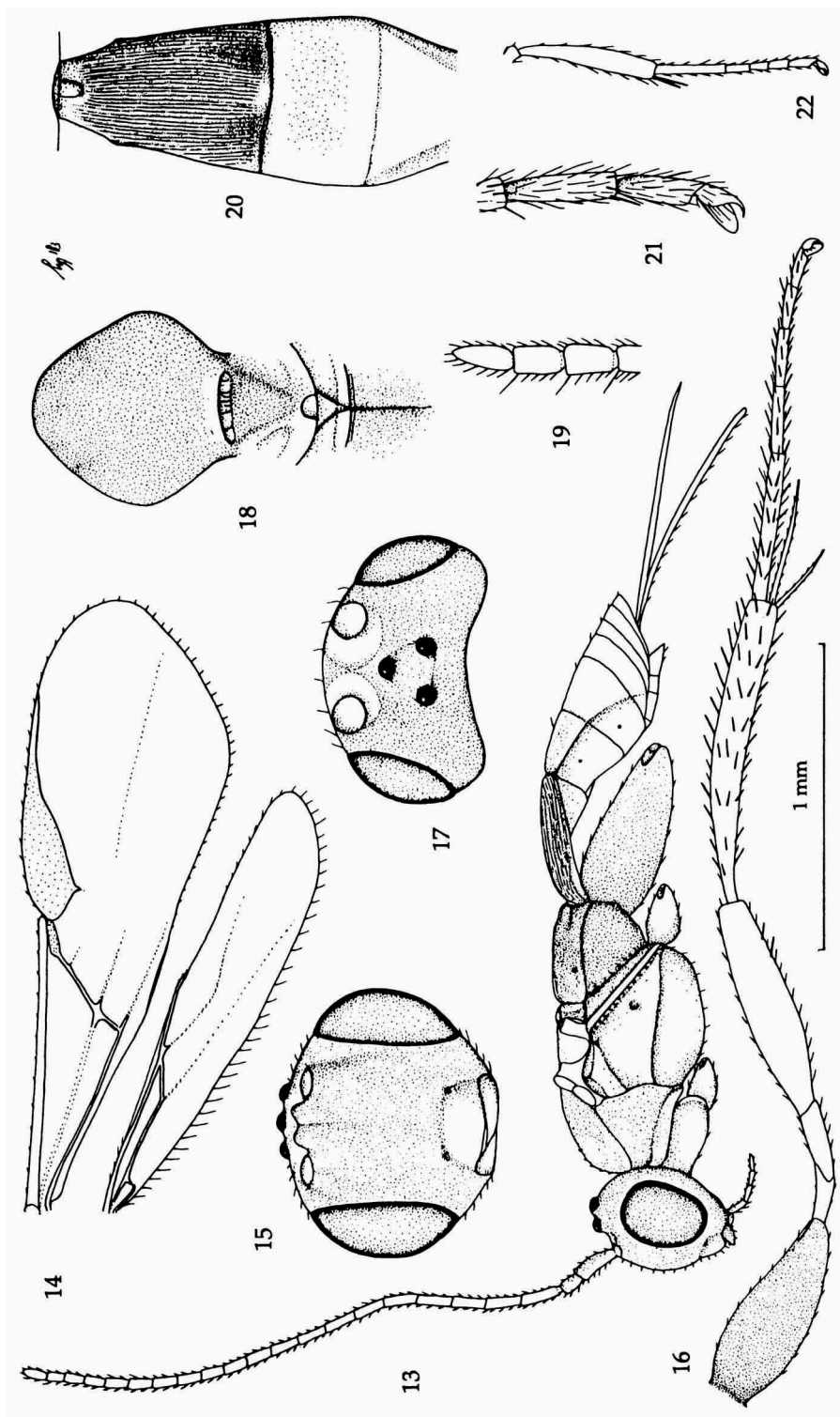
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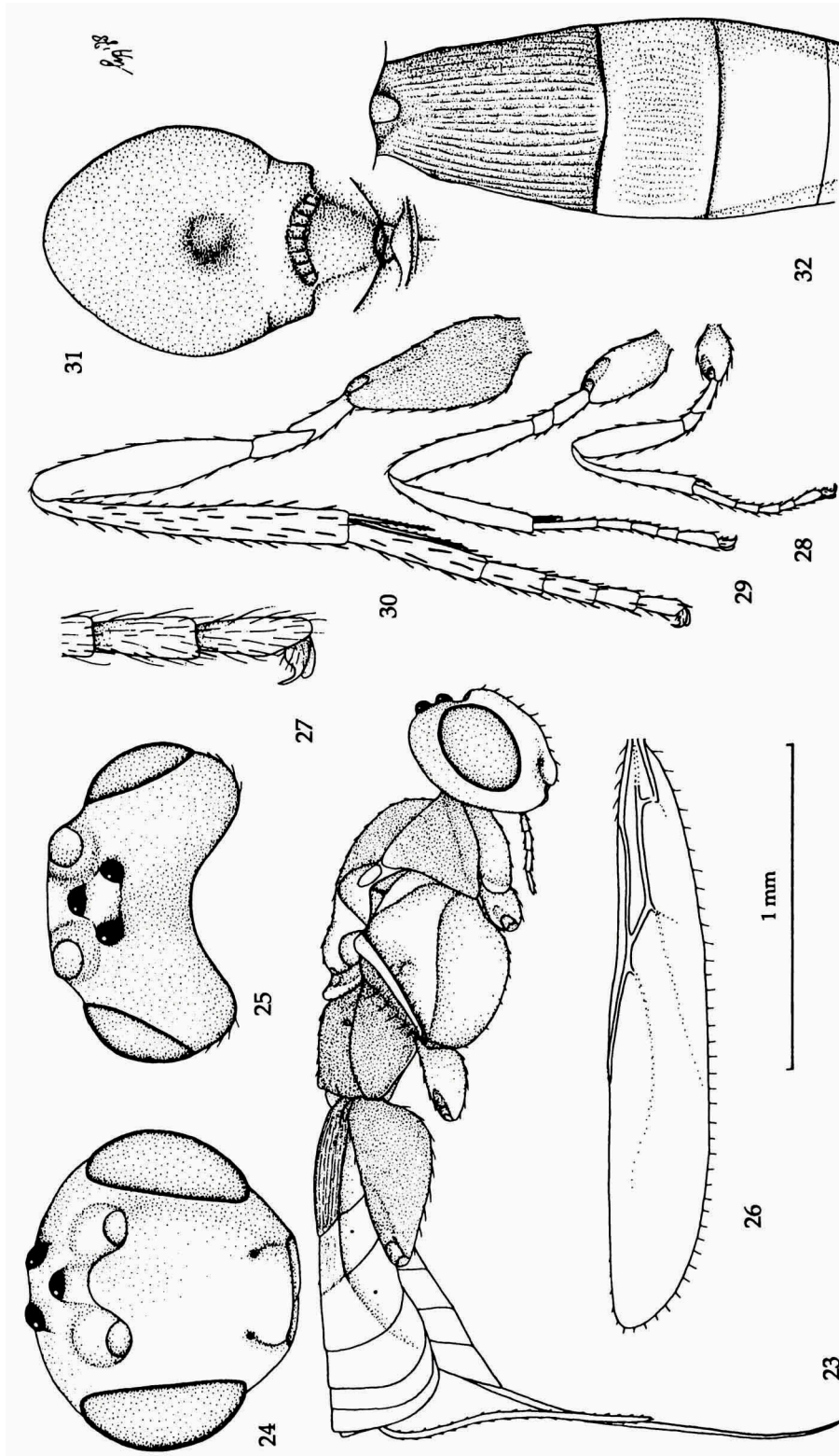
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Figs. 1-12, *Plesiocoelus bassiformis* gen. nov., spec. nov., ♀, holotype. 1, habitus, lateral aspect; 2, apex of hind tibia, outer aspect; 3, wings; 4, apex of antenna; 5, apex of scutellum and metanotum, dorsal aspect; 6, temple behind malar space with occipital flange, lateral aspect; 7, head, frontal aspect; 8, mesosoma, dorsal aspect; 9, head, dorsal aspect; 10, hind leg; 11, first-third metasomal tergites, dorsal aspect; 12, outer hind claw. 1, 3, 10: scale-line (= 1 ×); 2, 4, 6, 12: 2.5 ×; 5: 3 ×; 7-9, 11: 1.3 ×.

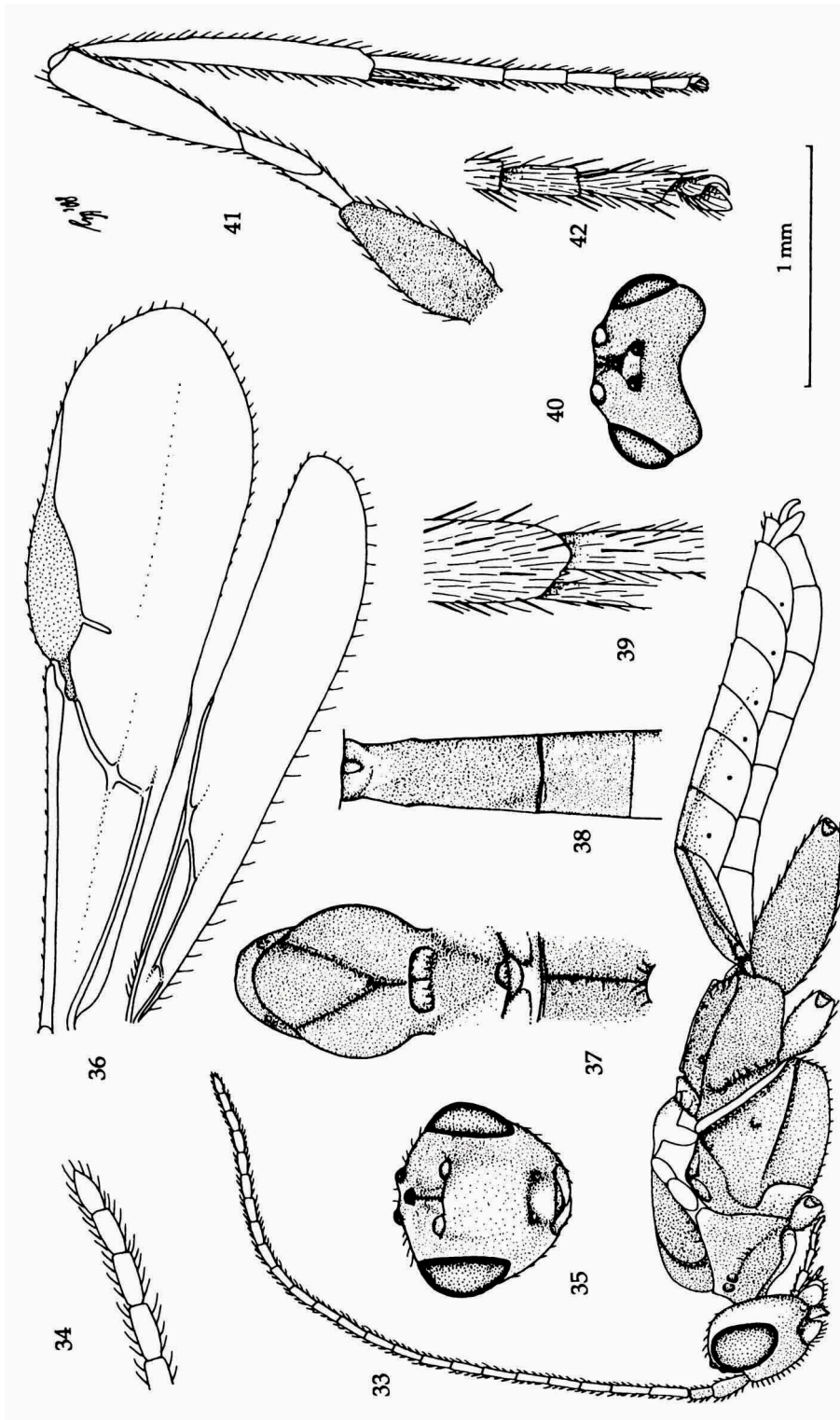


Figs. 13-22, *Mesocaelus acroceropsis* Muesebeck, ♀, holotype. 13, habitus, lateral aspect; 14, wings; 15, head, frontal aspect; 16, hind leg, dorsal aspect; 18, mesosoma, dorsal aspect; 19, apex of antenna; 20, first and second metasomal tergites, dorsal aspect; 21, outer hind claw; 22, middle femur and tarsus. 13, 14, 16, 22: scale-line (= 1 ×); 15, 17, 18, 20: 1.6 ×; 19, 21: 2.5 ×.

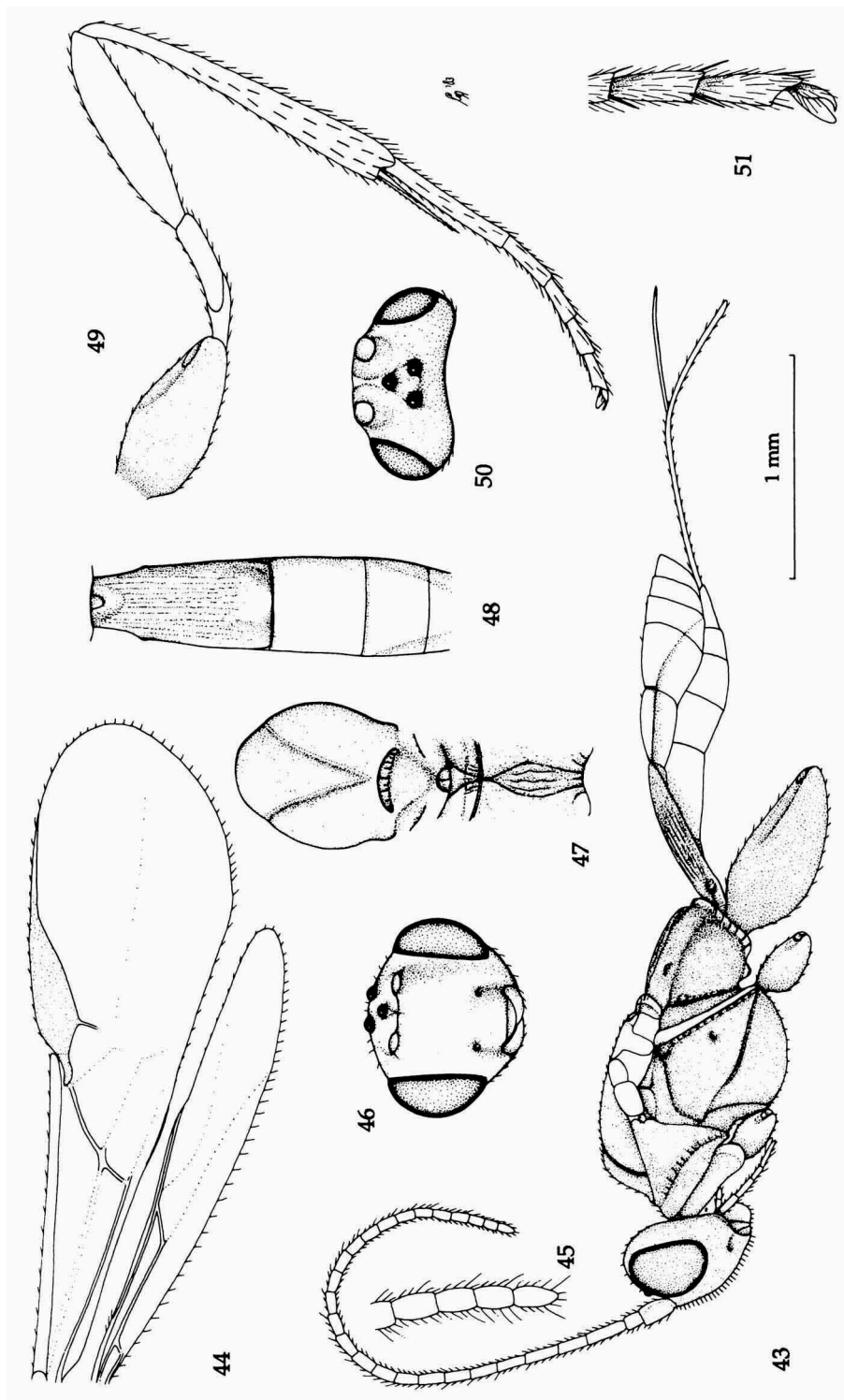


Figs. 23-32, *Mesocoelus laeviceps* (Ashmead), ♀, holotype. 23, habitus, lateral aspect; 24, head, frontal aspect; 25, head, dorsal aspect; 26, hind wing; 27, inner hind claw; 28, fore leg; 29, middle leg; 30, first-third metasomal tergites, dorsal aspect; 31, thorax, dorsal aspect; 32, scale-line (= 1 x); 24, 25, 31, 32: 1.7 x; 27: 2.5 x.

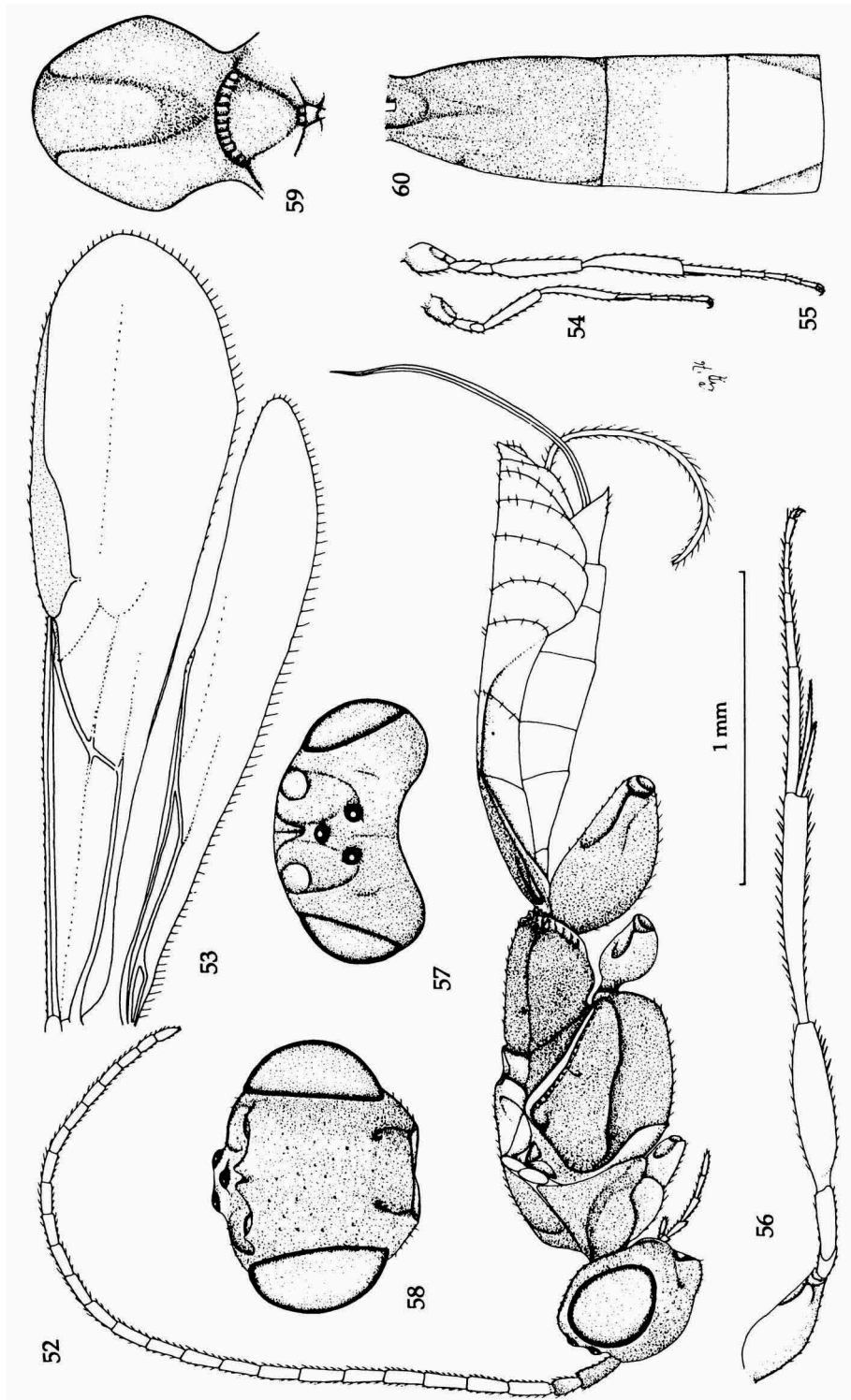




Figs. 33-42. *Aneurobracon notaulicus* spec. nov., ♂, holotype. 33, habitus, lateral aspect; 34, apex of antenna; 35, head, frontal aspect; 36, wings; 37, mesosoma, dorsal aspect; 38, first and second metasomal tergites, dorsal aspect; 39, apex of hind tibia, outer aspect; 40, head, dorsal aspect; 41, hind leg; 42, outer hind claw. 33, 36, 41: scale-line (= 1 x); 34, 39, 42: 2.5 x; 35, 37, 38, 40: 1.3 x.

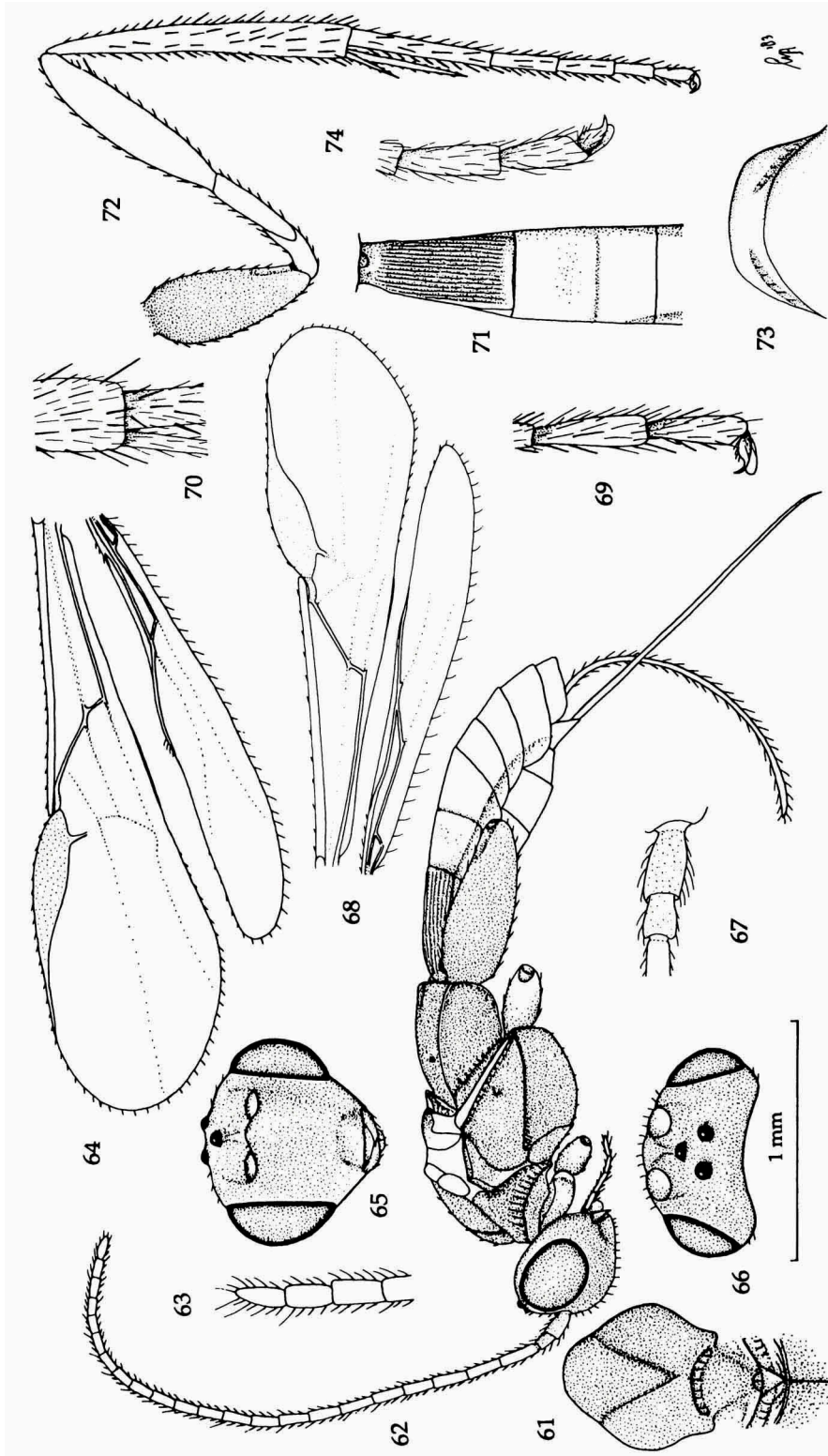


Figs. 43-51, *Aneurobracon samoanus* Fullaway, ♀, holotype. 43, habitus, lateral aspect; 44, wings; 45, apex of antenna; 46, head, frontal aspect; 47, mesosoma, dorsal aspect; 48, first-third tergites, dorsal aspect; 49, hind leg; 50, head, dorsal aspect; 51, outer hind claw. 43, 44, 49; scale-line (= 1 ×); 45, 51: 2.5 ×; 46-48, 50: 1.1 ×.

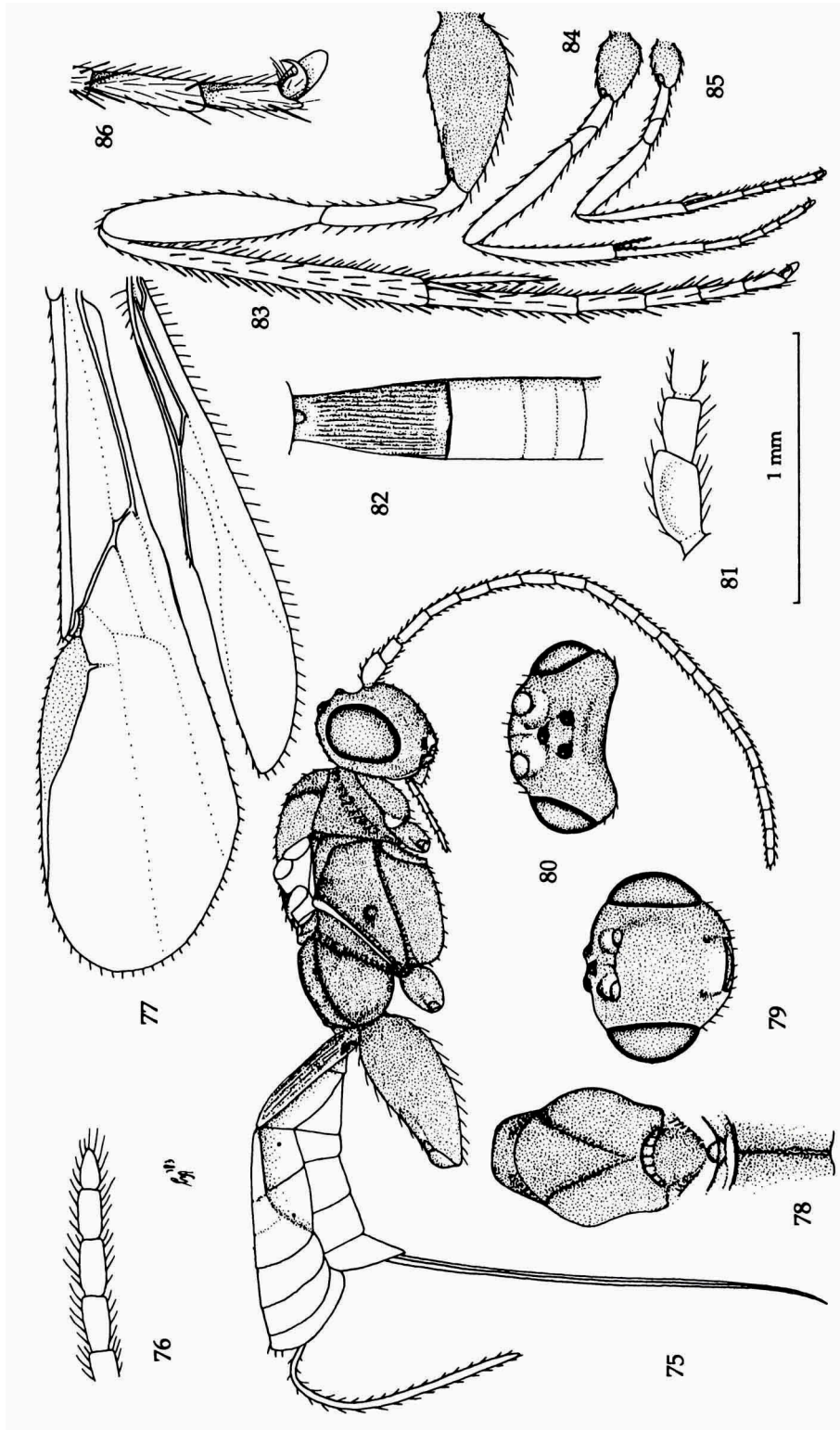


Figs. 52-60, *Aneurobracon bequaerti* Brues, ♀, holotype. 52, antenna; 53, habitus, lateral aspect; 54, fore leg; 55, middle leg; 56, hind leg; 57, head, dorsal aspect; 58, head, frontal aspect; 59, mesonotum, dorsal aspect; 60, mesonotum, dorsal aspect. 54-56: scale-line (= 1 x); 57-60: 0.6 x; 57-60: 1.5 x.

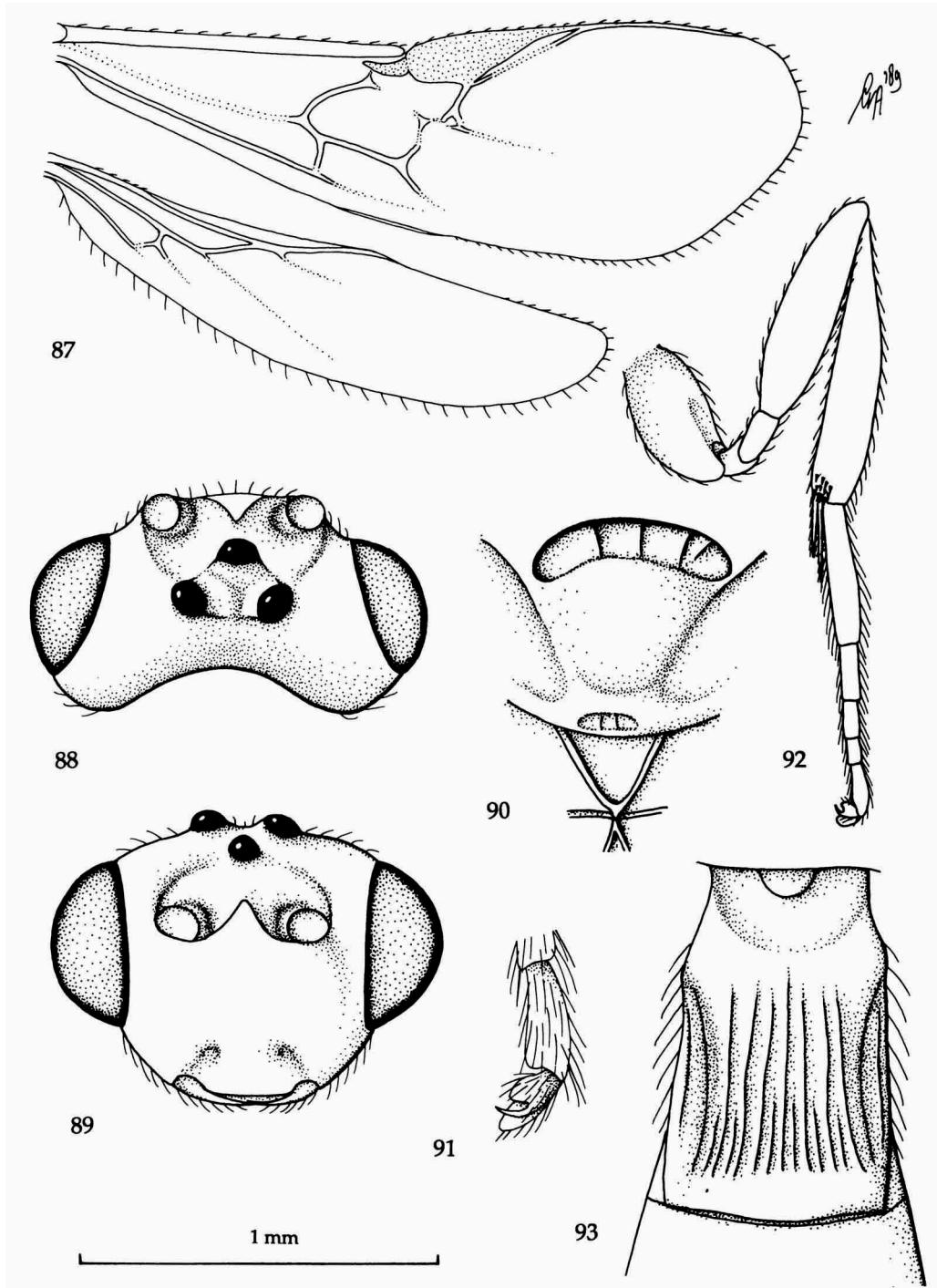




Figs. 61-74, *Aneurobracon philippinensis* (Muesebeck), ♀, holotype, but 68 and 70 of ♂-paratype and 67, 73 and 74 of ♀, Japan, Kyushu, 61, mesosoma, dorsal aspect; 62, habitus, lateral aspect; 63, apex of antenna; 64, 68, wings; 65, head, frontal aspect; 66, head, dorsal aspect; 67, scapus and pedicellus, lateral aspect; 69, 74, inner hind claw; 70, apex of hind tibia, outer aspect; 71, first-third metasomal tergites, dorsal aspect; 72, hind leg; 73, pronotum, dorsal aspect. 62, 64, 72: scale-line (= 1 ×); 61, 65, 66, 71: 1.3 ×; 63, 73: 2.5 ×; 67, 69, 70, 74: 3 ×; 68: 1.2 ×.



Figs. 75-86, *Aneurobracon annulipes* spec. nov., ♀, holotype. 75, habitus, lateral aspect; 76, apex of antenna; 77, wings; 78, mesosoma, dorsal aspect; 79, head, frontal aspect; 80, head, dorsal aspect; 81, scapus and pedicellus, lateral aspect; 82, first-third metasomal tergites, dorsal aspect; 83, hind leg; 84, middle leg; 85, fore leg; 86, hind claw. 75, 77, 83-85: scale-line (= 1 x); 76, 81, 86: 2.5 x; 78-80, 82: 1.1 x.



Figs. 87-93, *Bassus reductus* spec. nov., ♀, holotype. 87, wings; 88, head, dorsal aspect; 89, head, frontal aspect; 90, scutellum and metanotum, dorsal aspect; 91, hind claw; 92, hind leg; 93, first metasomal tergite, dorsal aspect. 87, 92: scale-line (= 1 ×); 88, 89: 1.6 ×; 90, 91, 93: 2.5 ×.